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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/611,901

07/03/2003

Masahiko Kamijoh

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10/23/2006

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EXAMINER

MORRISON, THOMAS A

ART UNIT

PAPER NUMBER

3653

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/611,901

Applicant(s)

KAMIJOH, MASAHIKO

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5,6,8-10,12,14-17,19,21-24,26 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6,8-10,12,14-17,19,21-24,26 and 28-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 3, 5, 6, 8-10, 12, 14-17, 19, 21-24, 26 and 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, section 2173.05(h) of the MPEP states

#### I. MARKUSH GROUPS

Alternative expressions are permitted if they present ***no uncertainty or ambiguity*** with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from the group consisting of A, B and C." See *Ex parte Markush*, 1925 C.D. 126 (Comm'r Pat. 1925). *Ex parte Markush* sanctions claiming a genus expressed as a group consisting of certain specified materials. Inventions in metallurgy, refractories, ceramics, pharmacy, pharmacology and biology are most frequently claimed under the Markush formula but purely mechanical features or process steps may also be claimed by using the Markush style of claiming. See *Ex parte Head*, 214 USPQ 551 (Bd. App. 1981); *In re Gaubert*, 524 F.2d 1222, 187 USPQ 664 (CCPA 1975); and *In re Harnisch*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980). ***It is improper to use the term "comprising" instead of "consisting of."*** *Ex parte Dotter*, 12 USPQ 382 (Bd. App. 1931). (emphasis added).

With regard to each of the Markush groups set forth in claims 1, 8, 9, 10, 16, 17, 23, 24 and their dependent claims, applicant improperly uses the term "comprising" instead of "consisting of", which makes these claims indefinite. See MPEP 2173.05(h).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 8, 10, 12, 16, 17, 19, 23, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0036377 (Togashi) in view of Japanese Publication No. 2002-68511.

Regarding claim 1, Figs. 1-15 and 53 of Togashi show an image forming apparatus (30), including

an image forming section (near 35); and

a sheet feed apparatus (near 4) aligned to feed a sheet to the image forming section (near 35) and having

a sheet feed roller (4) in pressing contact with an uppermost sheet of a plurality of sheets, and

a tilt member (6) opposing the sheet feed roller (4), the tilt member (6) including

a contact face (6b) in pressing contact with the sheet feed roller (4), and

a tilt face (6a) in contact with an edge of the uppermost sheet.

Regarding claim 10, Figs. 1-15 and 53 of Togashi show a sheet feed apparatus (30), including

a sheet feed roller (4) in pressing contact with an uppermost sheet of a plurality of sheets; and

a tilt member (6) opposing the sheet feed roller (4), the tilt member (6) including a contact face (6b) in pressing contact with the sheet feed roller (4), and a tilt face (6a) in contact with an edge of the uppermost sheet.

Regarding the "entire tilt member" limitation in claims 8 and 16, as best understood, Figs. 4-7, 13-15 and 53 of Togashi show that the tilt member (6) is an entire tilt member.

Regarding claim 17, Figs. 1-15 and 53 of Togashi show a face for use in a sheet separator tilt member (6) of a sheet feed apparatus (including 4), wherein the face is both a tilt face (6a) and a contact face (6b).

Regarding claim 23, Figs. 1-15 and 53 of Togashi show a sheet feed apparatus (including 4), having

means for sequentially feeding sheets (4) to an imaging device (35); and means for separating individual sheets with a tilt member (6) comprising a tilt face (6a) and a contact face (6b).

Regarding claim 24, Figs. 1-12 and 53 of Togashi show a method for feeding sheets to an imaging device, the improvement including

separating individual sheets with a tilt member (6) comprising a tilt face (6a) and a contact face (6b).

With regard to claims 1, 3, 8, 10, 12, 16, 17, 19, 23, 24 and 26, the numbered paragraph [0102] of Togashi specifically discloses that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin. Also, it is noted that in claims 1, 3, 8, 10, 12, 16, 17, 19, 23, 24 and 26 of the instant application, the material listed for the tilt face (6a) and the contact face (6b) of the tilt member (6) (e.g., polyethylene (PE)) is a synthetic resin. Moreover, Fig. 13 and the numbered paragraphs [0114] – [0115] of Togashi disclose that the region where the contact face (6b) and the tilt face (6a) are located is **susceptible to abrasion**. However, the Togashi reference does not explicitly disclose that the tilt member includes polyethylene (PE).

Japanese Publication No. 2002-68511 discloses that it is well known to provide a sheet feeder with a separator (1) comprising **polyethylene**, for the purpose of providing excellent **abrasion resistance** and a proper friction coefficient. See English abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Togashi with a tilt member including polyethylene (PE) for the purpose of achieving the proper abrasion resistance and friction coefficient, as taught by Japanese Publication No. 2002-68511. Thus, all of the limitations of claims 1, 3, 8, 10, 12, 16, 17, 19, 23, 24 and 26 are met.

3. Claims 5, 6, 14-15, 21-22 and 28-30 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent Publication No. 2002/0036377 (Togashi) in view of Japanese Publication No. 2002-68511 as applied to claims 1, 10, 17 and 24 above, and further in view of the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan".

Regarding claims 5, 6, 14-15, 21-22 and 28-30, the Togashi reference in view of Japanese Publication No. 2002-68511 discloses that it is well known to provide a tilt member including the synthetic resin polyethylene (PE), but such references do not explicitly disclose that the tilt member can include poly-ether-ether-ketone (PEEK) or polyimide (PI)). Also, these references do not explicitly disclose that the tilt member includes PEEK, PI or PE mixed with glass fiber.

The article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan" explains specific benefits (e.g., mechanical properties) of using polyethylene (PE), poly-ether-ether-ketone (PEEK) and polyimide (PI), and provides charts and graphs for comparing the properties of these synthetic resins against one another. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Togashi with a tilt member including poly-ether-ether-ketone (PEEK) or polyimide (PI) rather than polyethylene (PE), for the purpose of gaining the superior properties of PEEK or PI, as compared to PE, as taught in the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan". See e.g., Fig. 1,

Tables I and II, and pages 9-12 of this article for the compared properties of these different synthetic resins.

Moreover, the Togashi patent discloses that the tilt member is made of synthetic resin and discloses the claimed invention, except for the tilt member including poly-ether-ether-ketone (PEEK) or polyimide (PI)). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a tilt member including PEEK or PI, since it has been held to be within the general skill of a worker in the art to select a known material (i.e., the known synthetic resin "PEEK" or the known synthetic resin "PI") on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Thus, all of the limitations of claims 5, 6, 14-15, 21-22 and 28-29 are met.

Regarding claim 30, Figs. 1 and 2 and page 6 of the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan" disclose characteristics of PE, PEEK and PAI (i.e., a form of polyimide (PI)) reinforced with glass and this article discloses the improvements in tensile strength, rigidity and dimensional stability when glass fiber is added to such synthetic resins. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a tilt member including one of PE, PEEK and PI that is glass reinforced for the purpose of obtaining improved tensile strength, rigidity and dimensional stability, as taught by the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan". Thus, all of the limitations of claim 30 are met.



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4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0036377 (Togashi) in view of Japanese Publication No. 2002-68511 as applied to claim 8 above, and further in view of U.S. Patent No. 6,688,590 (Billings et al.). Fig. 2 of U.S. Patent Publication No. 2002/0036377 shows a support member (10) with guides (8) that support a tilt member (6), but does not specifically disclose that the support member (10) comprises one of the claimed materials.

Billings et al. discloses that it is well known in the art to form a support (32) from ABS plastic. See, e.g., column 4, lines 42-46. It would have been obvious to one of ordinary skill in the art at the time of the invention, to provide the apparatus of U.S. Patent Publication No. 2002/0036377 with a support that includes ABS, e.g., to provide sufficient strength characteristics for the support.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-3, 5-6, 8, 10-12, 14-19, 21-26 and 28-30 under U.S. Patent No. 2002/0036377 (Togashi) in view of article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan" have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/17/2006



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